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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/544,203 | 08/02/2005 | Minne Van Der Veen | NL 030107 | 8135 |

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EXAMINER

LAFORGIA, CHRISTIAN A

ART UNIT PAPER NUMBER

2131

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--|--|--|
| Office Action Summary | Application No. 10/544,203 | Applicant(s) VAN DER VEEN ET AL. | |
| | Examiner Christian La Forgia | Art Unit 2131 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>8/2/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-13 have been presented for examination.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority. ***Information***

Disclosure Statement

3. The information disclosure statement (IDS) submitted on 02 August 2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.
6. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

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- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

7. The specification as presented does not contain section headings. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the Applicant is trying claim with the limitation "wherein the second segment of the information signal is the first segment of the information signal." For examination purposes the Examiner will construe the claim as "wherein the first segment of the information signal being delayed to compensate for a duration of the steps of comparing the processed signal with the information signal and of adjusting the at least one control parameter."

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Office's current position is that claims involving signals encoded with functional descriptive material do not fall within any of the categories of patentable subject matter set forth in 35 U.S.C. § 101, and such claims are therefore ineligible for patent protection. *See* 1300 OG 142 (November 22, 2005) (in particular, see Annex IV(c)). Furthermore, claim 13 is directed toward nonfunctional descriptive matter, and as such does not fall in any of the statutory categories for patentability as set forth in 35 U.S.C. 101. *See* MPEP § 2106.01.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-11, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0024588 to Watson et al., hereinafter Watson.

14. As per claims 1 and 11, Watson teaches a method of processing an information signal, the method comprising:

applying a signal modification process to an information signal resulting in a processed signal (paragraphs [0029], [0127], i.e. embedding watermark information in the encoded signal),

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said signal modification process being controlled by at least one control parameter (Figure 29, paragraphs [0029], [0031], i.e. modulating one or more parameters);

comparing the processed signal with the information signal to determine a measure of perceptual quality of the processed signal (Figures 24 [block 24], 25 [block 32], 26 [block 32], paragraph [0212], i.e. compares the original input signal with the encoded signal);

adjusting said at least one control parameter in response to the determined measure of perceptual quality (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0212]-[0213], [0235]-[0244], i.e. adjusting parameters to improve the imperceptibility of the watermark).

15. Regarding claim 2, Watson teaches dividing the information signal into a sequence of segments of the information signal (paragraph [0126], i.e. decomposing the input signal into one or more components);

wherein the step of applying the signal modification process comprises applying the signal modification process to a first one of said segments of the information signal resulting in a first segment of the processed signal (paragraphs [0130]-[0144], i.e. applying the function to the first sample with correlation to the correct window sequence);

wherein the step of comparing the processed signal with the information signal comprises comparing said first segment of the processed signal with said first segment of the information signal (Figures 4, 5, paragraph [0146], i.e. comparing the source material and the watermarked data); and

wherein the method further comprises applying at least a part of the signal modification process to a second one of said segments of the information signal resulting in a second segment of the processed signal, the at least part of the signal modification process being controlled by said adjusted at least one control parameter (paragraph [0129], i.e. modulating the window parameter adaptively in time depending on signal characteristics).

16. With regards to claim 3, Watson teaches wherein the second segment of the information signal is a segment subsequent to the first segment of the information signal in the sequence of segments of the information signal (Figures 15, 16, paragraphs [0126], [0142]-[0144]).

17. With regards to claim 4, Watson teaches wherein the first segment of the information signal being delayed to compensate for a duration of the steps of comparing the processed signal with the information signal (Figure 3A, paragraph [0108], i.e. delay functions so the signal can be compared to a time-delayed version) and of adjusting the at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraph [0212]-[0213], [0235]-[0244]).

18. Regarding claim 5, Watson teaches delaying the information signal to compensate for a duration of the steps of comparing the processed signal with the information signal (Figure 3A, paragraph [0108], i.e. delay functions so the signal can be compared to a time-delayed version) and of adjusting the at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraph [0212]-[0213], [0235]-[0244]); and

applying at least a part of the signal modification process to the delayed information signal resulting in a modified processed signal, the at least part of the signal modification process being controlled by the adjusted at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0108]-[0109], [0212]-[0213], [0235]-[0244]).

19. Regarding claim 6, Watson teaches wherein the signal modification process comprises determining a watermark signal according to a watermark-embedding model (paragraphs [0002]-[0009], [0100]);

embedding the determined watermark signal in the information signal (paragraphs [0213], [0218]).

20. With regards to claim 7, Watson teaches wherein the signal modification process comprises determining a watermark signal according to a watermark embedding model (paragraphs [0002]-[0009], [0100]);

embedding the determined watermark signal in the information signal (paragraphs [0213], [0218]);

wherein the step of embedding the determined watermark signal is controlled by the at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0212]-[0213], [0235]-[0244]); and

wherein the step of applying at least a part of the signal modification process to the information signal comprises delaying the information signal resulting in a delayed signal (Figure 3A, paragraph [0108]); and

embedding the determined watermark signal in the delayed signal, the embedding being controlled by the adjusted at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0108]-[0109], [0212]-[0213], [0235]-[0244]).

21. With regards to claim 8, Watson teaches wherein the information signal is an audio signal and the watermark-embedding model comprises a psycho-acoustic model of the human auditory system (paragraphs [0010]-[0012], [0041], [0129], [0213]).

22. Regarding claim 9, Watson teaches wherein the information signal is an audio signal (paragraph [0029]) and the signal modification process comprises an audio coding process (paragraph [0042]-[0044], i.e. encoding the primary source signal).

23. Concerning claim 10, Watson teaches wherein the information signal is an audio signal (paragraph [0029]) and the signal modification process comprises an audio coding process (paragraph [0042]-[0044]) comprising determining a bit-allocation pattern for coding audio signal (Figures 24 [block 24], 29 [block 46], paragraphs [0213]-[0214], [0225]); and

performing a quantization of the audio signal according to the determined bit-allocation resulting in a quantized signal (Figures 24 [block 26], paragraphs [0213]-[0215]);

wherein the step of comparing the processed signal with the information signal (Figure 29 [blocks 52, 54], paragraph [0225]) comprises reconstructing the audio signal from the quantized signal (Figure 29 [block 48], paragraph [0225], i.e. inverse quantization); and

comparing the reconstructed signal with the audio signal (Figure 29 [blocks 52, 54], paragraph [0225]);

wherein the step of adjusting said at least one control parameter comprises adjusting the bit-allocation (Figures 24, 29 [block 58], paragraphs [0213]-[0214], [0225]); and

wherein the step of applying at least a part of the signal modification process to the information signal comprises delaying the audio signal resulting in a delayed signal (Figure 3A, paragraph [0108]); and

performing a quantization of the delayed signal according to the adjusted bit-allocation resulting in a processed quantized signal (Figures 24, 29 [block 58], paragraphs [0213]-[0214], [0225]).

24. Regarding claim 12, Watson discloses a device comprising an arrangement according to claim 11 (paragraph [0029], i.e. perceptual coding system).

25. Regarding claim 13, Watson discloses a processed information signal generated by the method according to claim 1 (Figures 2 & 3A [Output – Primary information embedded with supplemental information], paragraph [0029]).

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

27. The following patents are cited to further show the state of the art with respect to watermarking audio and video signals, such as:

United States Patent No. 6,219,634 to Levine, which is cited to show watermarking digital signals with respect to a noise threshold spectrum.

United States Patent No. 6,345,100 to Levine, which is cited to show watermarking digital signals with respect to a noise threshold spectrum

United States Patent No. 6,061,793 to Tewfik et al., which is cited to show watermarking audio signals that are imperceptible to people.

United States Patent No. 5,848,155 to Cox, which is cited to show spread spectrum watermarking for embedded signaling.

United States Patent Application Publication No. 2002/0126872 to Brunk et al., which is cited to show embedding signature information in digital content.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792. The examiner can normally be reached on Monday thru Thursday 7-5.

29. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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30. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christian LaForgia
Patent Examiner
Art Unit 2131

A handwritten signature in black ink, appearing to read 'C. LaForgia', with a long horizontal flourish extending to the right.

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